

REMARKS

The application has been reviewed in light of the Office Action mailed on October 5, 2004. Rejected claims 1-6 have been cancelled without prejudice, and Applicants reserve the right to pursue the cancelled claims, and other claims, in this and other applications. New claims 7-28 have been added without adding new matter. The new claims are believed to be in condition for allowance for the following reasons.

The new claims are directed to an assembly illustrated and described, for example, in Figure 2 and associated text of the specification. The assembly comprises, inter alia, a capillary array provided with a voltage application portion (31), a light detection portion (29) and an electrophoresis medium supply portion (30) which holds electrophoresis medium injection ports in a bundle. Additional details of the assembly are illustrated and described, for example, in Figures 3-10 and associated text of the specification. The claims are not limited to the disclosed embodiments.

The claimed invention offers several advantages. For example, since the electrophoresis medium injection ports are bundled at the electrophoresis medium supply portion, the size of the capillary array can be reduced. Also, even if the injection pressure of the electrophoresis medium into the capillaries is raised, the force applied to the electrophoresis medium supply portion is limited. This is because the force is determined by the product of the pressure and the area of the portion.

As such, the electrophoresis medium supply portion of the claimed invention can withstand high injection pressure of an electrophoresis medium. According to new claim 7, for example, an "electrophoresis medium supply portion ... [is] in communication with an electrophoresis medium container." (Please note that this does not exclude an another member between the medium supply portion and the medium container.) In addition, the capillary array of the claimed invention has a fundamental constitution necessary for electrophoresis, and attachment and detachment of the capillary array is facilitated. See, for example, page 18, lines 12-23 of the specification.

The Office Action relied on Mathies et al., U.S. Patent No. 5,274,240 (hereinafter "Mathies") to reject cancelled claims 1-6. Mathies discloses an electrophoresis apparatus using

a plurality of capillaries, but no electrophoresis medium supply portion for permitting injection of electrophoresis medium is provided in the plurality of capillaries.

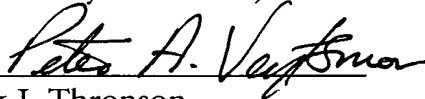
Further, preparation of the capillary array for an electrophoresis is complex and requires time in Mathies' apparatus. Namely, in Mathies, at first in order to facilitate adhesion of acrylamide on the inner walls of the capillaries, the inner walls are treated overnight with a bifunctional reagent. Subsequently, a mixture of acrylamide (monomer) gel solution, TEMED and ASP is vacuum siphoned into the capillaries and then allowed to polymerize overnight in a cold room to prepare polyacrylamide gel (electrophoresis medium) filled capillaries. Then both ends of the column are trimmed by about 1 cm. Thereafter, a capillary array is prepared by assembly the electrophoresis medium filled capillaries. See column 6, lines 6-28 of Mathies.

Accordingly, Mathies fails to teach or suggest the capillary array of the claimed invention, having the electrophoresis medium supply portion for permitting injection of an electrophoresis medium into the plurality of capillaries. Thus, the advantages realized by the present invention are not achieved by Mathies.

In view of the above, Applicants believe the pending application is in condition for allowance.

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